

## CLAIMS

1. Cosmetic composition, characterized in that it comprises, as an active ingredient, at least one substance which promotes the intercellular communication of skin cells, particularly keratinocytes, fibroblasts and skin preadipocytes.
2. Composition according to claim 1, characterized in that said substance promotes intercellular communication via the gap junctions of skin cells, particularly keratinocytes, fibroblasts and skin preadipocytes.
3. Composition according to claim 1 or 2, characterized in that said substance which promotes intercellular communication promotes the formation of connexin, particularly connexin 43.
4. Composition according to one of claims 1 to 3, characterized in that said substance which promotes intercellular communication comprises at least one lipid extract of the alga *Skeletonema*, especially the alga *Skeletonema costatum*, and particularly a total lipid extract of said alga.
5. Composition according to claim 4, characterized in that said extract is obtained by extracting the alga *Skeletonema* with an alcoholic solvent selected from the group consisting of isopropanol, ethanol and methanol.
6. Composition according to claim 5, characterized in that the above-mentioned extract is obtained by extracting the alga with isopropanol.
7. Composition according to claim 5, characterized in that the above-mentioned extract is obtained by extracting the alga with ethanol.
8. Composition according to one of claims 4 to 7, characterized in that the extraction is performed under reflux.
9. Composition according to one of claims 4 to 8, characterized in that the alga is frozen before being extracted with the alcoholic solvent, the freezing preferably being effected at a temperature of between about  $-40^{\circ}\text{C}$  and  $-20^{\circ}\text{C}$  and for a period preferably of between about 1 and 7 days.
10. Composition according to one of claims 4 to 9, characterized in that the frozen alga is immersed directly in the heated alcoholic solvent.
11. Composition according to one of claims 5 to 10, characterized in that the above-mentioned algal extract is obtained after the following series of steps:
  - a) the alcoholic solvent is alkalized to a pH of between 10 and 14, preferably to a pH of 13, for example with aqueous sodium hydroxide solution or aqueous potassium hydroxide solution,

- b) the insoluble materials are removed from the aqueous-alcoholic phase,  
c) distilled water is added to the aqueous-alcoholic phase,  
d) the solution obtained is subjected to liquid-liquid extraction with an apolar solvent immiscible with the aqueous-alcoholic phase, for example heptane,  
5 hexane or cyclohexane,  
e) the phase containing the apolar solvent is removed,  
f) the aqueous-alcoholic phase recovered after removal of the phase containing the apolar solvent is acidified to a pH of between 1 and 3, preferably to a pH of 2, for example with aqueous sulfuric acid solution or aqueous hydrochloric acid solution,  
10 g) the solution obtained after acidification is subjected to liquid-liquid extraction with an apolar solvent immiscible with the aqueous-alcoholic phase, for example heptane, hexane or cyclohexane,  
h) the aqueous-alcoholic phase is removed, and  
15 i) the phase containing the apolar solvent recovered after removal of the aqueous-alcoholic phase is evaporated to give an oil free of apolar solvent, this oil being the target extract.
12. Composition according to claim 4, characterized in that the above-mentioned extract is obtained by extraction with supercritical CO<sub>2</sub>.
- 20 13. Composition according to one of claims 5 to 11, characterized in that, before any extraction operation, the alga is macerated in the alcoholic solvent at room temperature, preferably for a period of between about 5 minutes and 80 minutes and particularly preferably for a period of between about 20 minutes and 40 minutes.
- 25 14. Composition according to one of claims 5 to 10 or 13, characterized in that the amount of alcoholic solvent used is between about 0.1 liter and 20 liters of solvent, preferably between about 2 liters and 10 liters of solvent, per 100 g of alga, expressed by dry weight of alga.
- 30 15. Composition according to one of claims 4 to 14, characterized in that the extraction is performed under an inert atmosphere, preferably a nitrogen-saturated atmosphere.
- 35 16. Composition according to one of claims 4 to 15, characterized in that it comprises from about 0.01% to 10% and particularly from about 0.1% to 3% by weight of said lipid extract of the alga *Skeletonema*, especially the alga *Skeletonema costatum*, based on the total weight of the final composition.

17. Composition according to one of claims 1 to 3, characterized in that said substance which promotes the intercellular communication of skin cells is boldine.
18. Composition according to claim 17, characterized in that it comprises from about 0.001% to 10% and particularly from about 0.01% to 1% by weight of boldine, based on the total weight of the final composition.
19. Use of at least one substance which promotes the intercellular communication of keratinocytes, fibroblasts and skin preadipocytes as a cosmetic agent, optionally in the presence of a cosmetically acceptable vehicle.
20. Use according to claim 19, characterized in that said substance promotes intercellular communication via the gap junctions of keratinocytes, fibroblasts and skin preadipocytes.
21. Use according to claim 19 or 20, characterized in that the substance which promotes intercellular communication promotes the formation of connexin, particularly connexin 43.
22. Use according to one of claims 19 to 21, characterized in that said substance comprises at least one lipid extract of the alga *Skeletonema*, especially the alga *Skeletonema costatum*, and particularly a total lipid extract of said alga, especially as defined in any one of claims 5 to 16, said extract advantageously being obtained by liquid-liquid extraction between an alkalized and then acidified alcohol and an apolar solvent immiscible with the aqueous-alcoholic phase, for example heptane, hexane or cyclohexane.
23. Use according to one of claims 19 to 21, characterized in that said substance is boldine.
24. Method of promoting and/or increasing the activity of a cosmetic agent acting directly in the cell or via intracellular second messengers, characterized in that it comprises the application, simultaneously with or prior to that of said cosmetic agent, to the appropriate skin areas of a person in need thereof, of an effective amount of at least one substance promoting intercellular communication, particularly a substance promoting intercellular communication as defined in any one of claims 2 to 18.
25. Method of cosmetic skin anti-ageing treatment, characterized in that it comprises the application, to the appropriate skin areas of a person in need thereof, of an effective amount of at least one substance promoting intercellular communication for obtaining an anti-ageing effect on said skin areas, especially for improving the firmness and elasticity of the skin, for delaying the appearance of

ankles or for reducing their depth, and part  
rcellular communication as defined in any one o